

ABSTRACT OF THE DISCLOSURE

A process of producing a functionally graded sheet of material (preferably aluminum alloy) that undergoes a transformation from an original property to a transformed property when subjected to energy input. The process comprises

5 irradiating a surface of the sheet article with an energy beam having an energy level and duration effective to modify the original property of the material of the sheet article to provide the material with said transformed property. The energy beam is directed into a plurality of zones forming a pre-determined repetitive pattern over the surface of the sheet article thereby creating a plurality of

10 mutually spatially separated zones of the material provided with the transformed property arranged in the repetitive pattern.